

BEC EnviroSeries Online Conference

27 November 2020

Urban Transport on the Move: Connecting Policies, People and Business Opportunities

Conference Report

February 2021



I. Introduction

Transport is an important sector in Hong Kong: it enables the movements of people and goods, facilitates Hong Kong's efficient commercial and business functions, and contributes to Hong Kong's economic performance. At the personal level, transport supports people's mobility needs and gets them connected.

However, unchecked growth in motorisation, over-reliance on fossil fuel vehicles and a car-centric city planning culture will exacerbate the transport sector's impact on the environment. There are calls for rethinking the role of transport in the urban landscape and how cities should be planned so as to balance maintaining the mobility functions and to minimising externalities such as air pollution, greenhouse gases emissions and the loss of public space.

With COVID-19 and climate change, these questions become even more valid and pressing. It is timely and necessary for policy makers, the business sector and the general public to explore how COVID-19 and decarbonisation will reshape urban mobility. There are opportunities to respond to the changing mobility need of people and delivery of goods as well as to transform transport operation for better efficiency and enhanced resilience.

The conference was organised into 4 main sessions to facilitate discussion:

Session 1: Planning for a Sustainable and People-centric Urban Transport System

Session 2: Future Private Mobility and Public Transport

Session 3: Business innovation and Opportunities in Post-COVID-19 Urban Mobility

Session 4: Promoting Active and Inclusive Transport

Programme Rundown

Time	Topic
9:25-9:30	Welcome Remarks Mr Adam Koo, Chief Executive Officer, Business Environment Council
9:30-9:45	Post COVID-19 Reflection on Urban Mobility and Sustainable Development Goals Mr Thomas Deloison, Director, Mobility, World Business Council for Sustainable Development
9:45-11:00	Plenary 1: Planning for a Sustainable and People-centric Urban Transport System Moderator: Mr Simon Ng, Director – Policy & Research, Business Environment Council
	Planning for a sustainable living environment Mr Ivan Chung, Deputy Director of Planning/Territorial, HKSAR Government
	How to develop a transit-oriented and people-based community Mr Steve Yiu, Principal Advisor, Property Planning, MTR Corporation
	Panel Discussion 1 Mr Constant Van Aerschot, Director, Asia Pacific, World Business Council for Sustainable Development Mr Ivan Chung, Deputy Director of Planning/Territorial, HKSAR Government Mr Steve Yiu, Principal Advisor, Property Planning, MTR Corporation
11:00-11:30	Break
11:30-13:00	Plenary 2: Future Private Mobility and Public Transport Moderator: Dr Raymond Yau, Chairman, BEC Sustainable Living Environment Advisory Group
	Future of mobility and importance of public transport Mr Alok Jain, Managing Director, Trans-Consult Ltd. and Expert Trainer, International Association of Public Transport (UITP)
	Decarbonising private transport Mr Michael Chan, COO, Inchcape Hong Kong

Panel Discussion 2

Mr Alok Jain, Managing Director, Trans-Consult Ltd. and Expert Trainer, International Association of Public Transport (UITP)

Mr Michael Chan, COO, Inchcape Hong Kong

Mr Dan Wong, General Manager-Global Innovation, MTR Corporation

Mr Gary Leung, Head of Operational Planning Department, The Kowloon Motor Bus Company (1933) Limited

Mr Alexander Mastrovito, Head of Sustainability, Scania

13:00-14:00 Break

14:00-15:30 Plenary 3: Business Innovation and Opportunities in Post-COVID-19 Urban Mobility

Moderator: Mr Ron Chung, Director, Engineering and Technical Services, Smart Charge (HK) Limited

Integrated solutions to zero-carbon and healthy mobility

Mr Daniel Weitze, Head of Digital Mobility, Siemens Mobility

ICT and a smart, people-centric urban system

Mr Charles So, Chairman, Smart Mobility Committee, Smart City Consortium

Post COVID-19 trends in urban living and mobility

Ms Yuan Shi, Global Solutions Lead, New Mobility, Arcadis

Driving Green Transportation in Hong Kong

Ir Dr Anthony Lo, Director – Corporate Customer Experience, CLP Power Hong Kong Limited

Connected and autonomous vehicles

Mr Clement Ho, Associate Director, East Asia Digital Transport Lead, Arup

Inter-modality, data sharing and sustainable mobility

Dr John Ure, Director of Technology Research Project (TRP) and Fellow of the Centre of Urban Studies and Urban Planning, HKU

Panel Discussion 3

Mr Daniel Weitze, Head of Digital Mobility, Siemens Mobility

Mr Charles So, Chairman, Smart Mobility Committee, Smart City Consortium

Ms Yuan Shi, Global Solutions Lead, New Mobility, Arcadis

Ir Dr Anthony Lo, Director – Corporate Customer Experience, CLP Power Hong Kong Limited

Mr Clement Ho, Associate Director, East Asia Digital Transport Lead, Arup

Dr John Ure, Director of Technology Research Project (TRP) and Fellow of the Centre of Urban Studies and Urban Planning, HKU

15:30-16:00 Break

16:00-17:25 Plenary 4: Promoting Active and Inclusive Transport

Moderator: Mr Simon Ng, Director – Policy & Research, Business Environment Council

COVID-19 and walkability

Ms Bronwen Thornton, CEO, Walk21

Creating healthy and sustainable cities with active and inclusive transport

Prof Billie Giles-Corti, Distinguished Professor and Director, Urban Futures Enabling Capability Platform, RMIT University

Panel Discussion 4

Ms Bronwen Thornton, CEO, Walk21

Prof Billie Giles-Corti, Distinguished Professor and Director, Urban Futures Enabling Capability Platform, RMIT University

Mr Patrick Fung, CEO, Clean Air Network

Mr Roger Torino, Associate Planner, OTC Limited

Mr Nicholas Brooke, Asia Pacific Chairman, Urban Land Institute (ULI)

17:25-17:30 Closing Remarks

Mr Richard Lancaster, Chairman, Business Environment Council

II. Conference Opening

Opening Remarks

Mr Adam Koo

Chief Executive Officer, Business Environment Council Limited

Mr Koo welcomed participants and thanked sponsors and partners for their contributions to Business Environment Council (BEC)'s first fully virtual EnviroSeries Conference. Sustainable living environment, one of the three environmental focus areas for BEC, includes a number of interconnected topics that would be benefitted from taking an integrated approach to understanding and addressing them, as we live with the effects of COVID-19 and climate change.

Urban transportation is one of the most important sectors in Hong Kong, as it enables the movement of people and goods, facilitates Hong Kong's efficient commercial and business functions, and contributes to Hong Kong's economic performance. He hoped the conference could inspire Hong Kong to re-examine the role of transportation in the urban landscape, and how cities could be better planned to maintain mobility functions while minimising externalities such as air pollution, greenhouse gas emissions, and the loss of public space.

Post COVID-19 Reflection on Urban Mobility and Sustainable Development Goals

Mr Thomas Deloison

Director, Mobility, World Business Council for Sustainable Development

Mr Deloison commented that the pandemic brought economic disruption globally, but also accelerated existing trends like digitalisation and electrification, allowing us to anticipate a positive transformation of the urban mobility system and transport behaviours. For instance, the pandemic allowed us to question the need to go to work physically, and the role of active mobility like walking and cycling in local economies.

The decade ahead is critical in transport and urban mobility, which will be at the centre of decarbonisation. The acceleration of technology and political leadership will help countries address climate change and achieve the United Nations' Sustainable Development Goals.

While in recent years we have seen advances in the integration of digital services in mobility, electrification of vehicles in the urban environment, and efficiency gains in urban mobility systems, we should not lose sight of safety, inclusivity, and equality, especially in light of the pandemic and the corresponding economic crisis. The most vulnerable populations are often those who use public transit most, and will need assistances and incentives for the access to work and education. Businesses also have the responsibility to provide their employees access to work in the most sustainable and efficient way.

It is our collective responsibility to advocate and practice change. There are huge opportunities in the midst of the pandemic to reshape urban mobility systems, provide innovation to show leadership in behavioural changes, and advocate for ambitious policies that drive change.

III. Plenary 1: Planning for a Sustainable and People-centric Urban Transport System

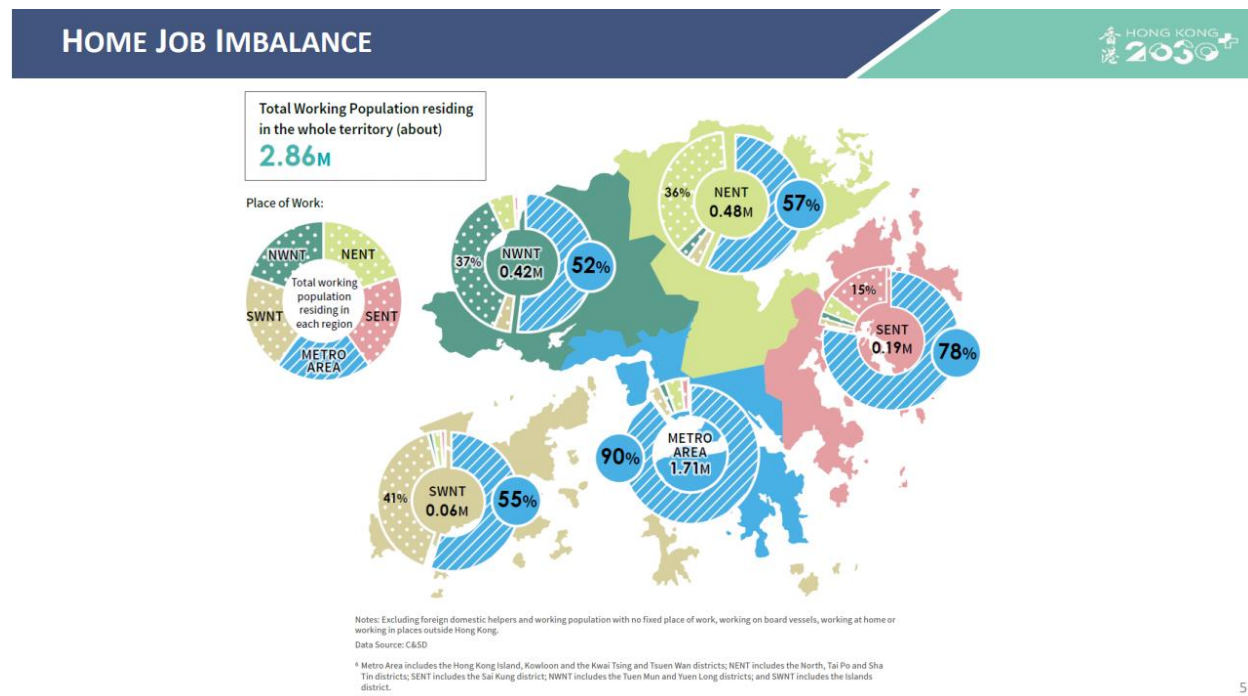
Planning for a sustainable living environment

Mr Ivan Chung

Deputy Director of Planning/Territorial, HKSAR Government

Hong Kong 2030+, the updated territorial development strategy, sets a vision that Hong Kong should become a liveable, competitive and sustainable city through town planning and the efficient use of resources. Clean and healthy cities can ultimately improve people’s living standards and enhance their well-being. There is a need to promote urban mobility while managing radical growth through town planning.

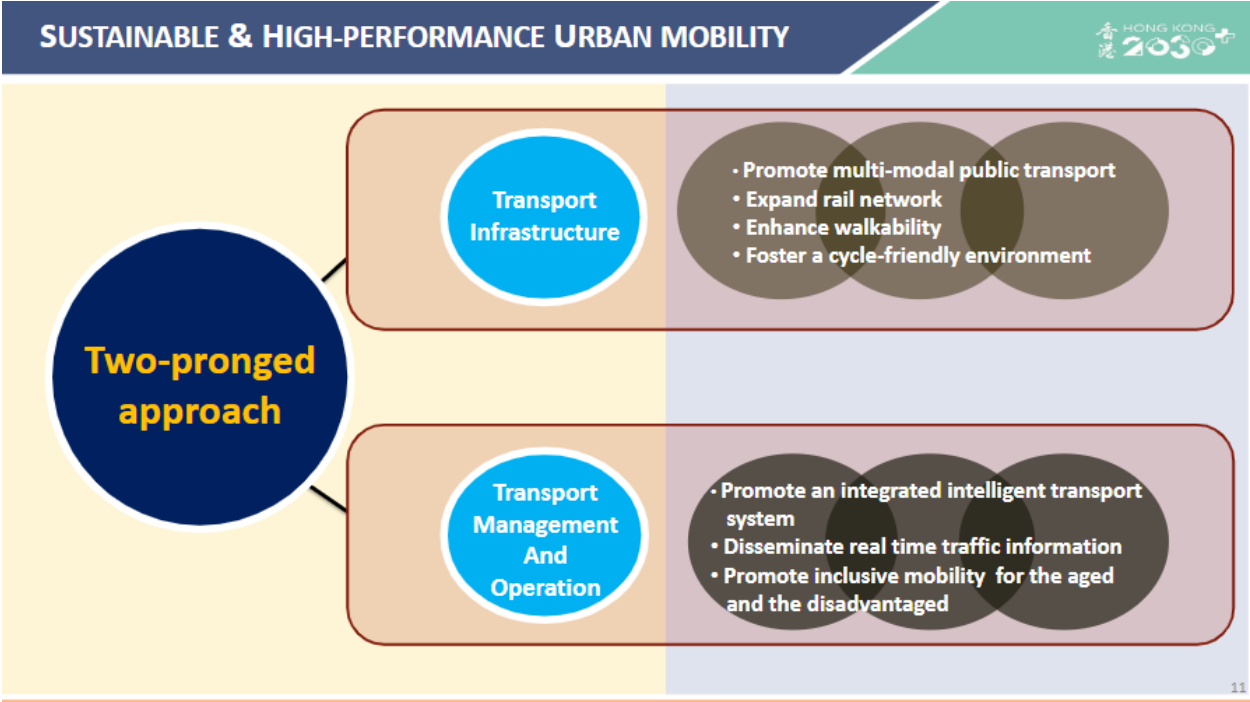
In Hong Kong, there are two major transport issues: the home-job spatial imbalance and the growth of private vehicles. Cross-district commuting has created immense pressure on transport infrastructure and degrades the quality of life, while the continued growth of vehicles adds burden to an already overloaded transport infrastructure.



To alleviate this imbalance, bringing jobs closer to homes and promoting a more balanced spatial development pattern will be the major consideration underlying the formulation of the strategic plan and planning for the individual new development area.

The growth of vehicles exceeds the growth of population and domestic households: the total number of licensed vehicles has been increasing at an average rate of 2.3% per annum while the average population growth has only been 0.6% from 1999 to 2019. Promoting a more comprehensive transport infrastructure that can actively manage traffic and encourage people to use public transport more often would be vital to limiting the unchecked growth of vehicles, especially private cars.

The Planning Department advocates a more balanced territorial development pattern by decentralising economic activities to cater for future housing needs, and to mitigate home-job imbalance by proposing new CBDs in East Lantau Metropolis and creating more job opportunities in the New Territories North.



To reduce vehicular growth, the Government also plans to increase the use of public transport by creating greater capacity that enhances their service qualities and continue the principle of using railway as the backbone. Advocating walking and cycling, by building a comprehensive and integrated pedestrian network and cycle tracks, will be another focus to mitigate traffic congestion and emissions. Moreover, the Government is adopting the broader use of the information and

communications technology to promote and facilitate smart transport management and operations.

How to develop a transit-oriented and people-based community

Mr Steve Yiu

Principal Advisor, Property Planning, MTR Corporation

Hong Kong has been building numerous transit-orientated development (TOD) projects in the past decades. For MTRC, new railway lines not only serve transport functions, but also as development corridors.

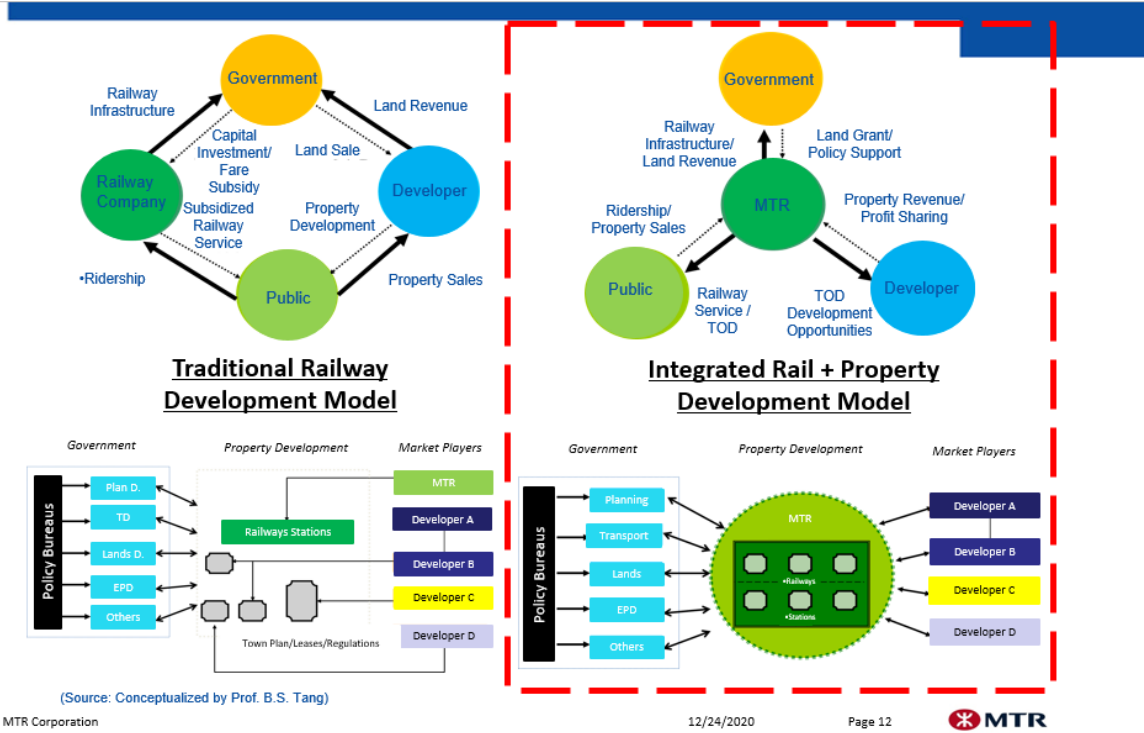
Benefits of Integrated TOD Projects

- Development opportunities in prime convenient locations (**Economic**)
- Conceal unsightly and noisy transport infrastructure (**Environmental**)
- Enhance connectivity and provide public realm (**Social**)
- Capture value-added to improve project viability (**Financial**)

=> **Towards a more sustainable city**

TOD is not new – it has been adopted worldwide by private transportation companies in the past driven by profitability, but as land assembly gets harder and construction costs increase, most TOD projects are now driven by governments to achieve sustainability goals.

The main implementation challenge for TOD is to serve a multitude of functions in the same piece of land, especially now when railway companies do not own the develop rights above station sites. Aligning the interests of various stakeholders remains a key issue to be solved.



To alleviate the issues, MTRC, supported by the Hong Kong Government, adopted the Rail + Property model to integrate property with railway facilities to create and capture value, as well as to increase ridership. MTRC plays the role as a super connector who resolves all the technical and administrative interfaces, while the Government is the majority shareholder to ensure a high degree of corporate governance is being exercised and the public interest is being looked after. For example, when planning a new railway line, the purpose is neither to construct the cheapest nor quickest railway, but to capture as many residents around the stations as possible.

TODs are people-centric – creating life and vibrancy as well as seamlessly integrating with the transport network. For instance, station integrated development incorporates a public transport interchange near the residential buildings for greater convenience. TOD’s people-based design is reflected in station planning through vertical and horizontal integration with a purpose to increase the proximity and accessibility of stations to people and residents.

With such principles in mind, MTRC views that TODs should be value-driven, market-oriented and people-based to attract residents and customers, and change their views of development projects from NIMBY (not in my back yard) to PIMBY (please in my back yard).

Panel Discussion 1

Panellists

Mr Constant van Aerschot, Director, Asia Pacific, World Business Council for Sustainable Development

Mr Ivan Chung, Deputy Director of Planning/Territorial, HKSAR Government

Mr Steve Yiu, Principal Advisor, Property Planning, MTR Corporation

Mr Simon Ng (Moderator), Director – Policy & Research, Business Environment Council

Reduce the number of roads and car ownership while making alternatives more attractive

- Building more roads and more parking space will generate more traffic. Reducing parking space will incentivise people to switch from owning a car to take public transport. Many cities in Europe are disincentivising car ownership using policies and regulations such as limiting the maximum number of carparking spaces, converting double lanes to single lanes, and making the alternative to owning a car more attractive.
- To advocate and promote the alternative modes of transport, there should be well planned walking and cycling networks. People should also have easy access to public transport station to encourage environmentally friendly last-mile transport modes like walking or cycling to and from people's homes and offices. These factors should be considered early in the planning and design stages and seamlessly integrated with government policies.

Shifting the focus from car-centric to people-centric urban transport system

- In Hong Kong, city planning and development in the past had been mainly underlain by engineering considerations to be convenient, easily implemented and financially viable. The prime example is highways built on and blocked off public access to the valuable waterfront. Citizens are often deprived of the opportunity to be engaged in city design and planning stages. Therefore, there needs to be a change of priorities for city planning from convenience-driven and car-centric to value-driven and people-centric.
- Using railway as the backbone, the transport system should integrate well with non-mechanised transport modes through a well-planned pedestrian and cycling network to enhance accessibility.

Data sharing

- There is a mismatch between data ownership and possession of transport data in Hong Kong. The Government owns the data while private transport operators hold the data. To optimise and develop new transportation services, the private and public sectors should exchange data and agree on data sharing principles to resolve issues such as data ownership and privacy.
- Data sharing and collaboration between different Government departments is also important, as city planning involves a range of different parties.
- In Europe, data sharing and usage have been extensively discussed. However, the progress is still relatively slow as data privacy issues and concerns are yet to be solved.

Collaboration with stakeholders

- To facilitate the TOD process, the public should be engaged in the design stage in order to obtain stakeholder buy-in and consent for approval. Concerned government departments are currently studying how mobility can be improved in New Development Areas, planning better provision of parking facilities making use of technology, and exploring minimisation of road spaces in the newly planned town centres with and the integration of active design.
- Urban planning is a lengthy process, so there has to be built-in flexibility to cater for the changing technologies and demands.
- To educate and raise awareness among the public, WBSCD conducts workshops to share best practices, and promote corporate mobility pledges. It brings together companies who have committed actions for sustainable mobility, such as switching to electric vehicles (EVs), to demonstrate the demand for charging infrastructure to local governments. By showing more and more companies are engaged in EVs, companies are able to accelerate investment and public policies in providing charging infrastructure.

IV. Plenary 2: Future Private Mobility and Public Transport

Future of mobility and importance of public transport

Mr Alok Jain

Managing Director, Trans-Consult Ltd. and Expert Trainer, International Association of Public Transport (UITP)

WHAT COVID-19 HAS DONE TO CITIES

- **Public transport priority** – BRT, Bus lanes
- **Active mobility** – Cycles / Walk
- **Shared mobility** – Ride-sharing
- **Electrical mobility** – Electric buses / vehicles
- **Connected mobility** – Mobility as a Service
- **Redefining Road Space** – No-car zones; Cycle lanes
- **Redefining Urban Living** – 15-minute city
- **Road Pricing** – funding public transport
- **Enforcement** – illegal parking
- **Citizen centricity** – open data
- **Innovation and technology** – autonomous driving
- **Pledges towards climate change** - decarbonization

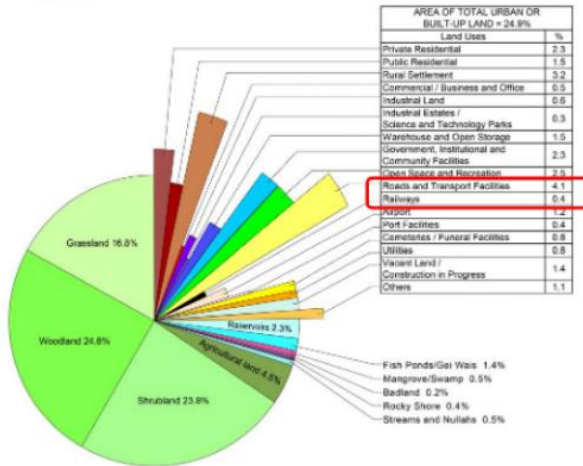
What is
Hong
Kong
scorecard?



Under COVID-19, the use of private transport has gone up at the expense of public transport due to people's health concerns. However, studies show that public transport is often cleaner and safer than what travellers perceive, as public transport vehicles are regularly cleaned and disinfected. The challenge now becomes restoring commuters' confidence in public transport. One observation is that the ridership of buses has been recovering faster than that of trains, because buses provide a sense of openness for passengers compared to rail-based transportation.

Cities around the world have been adopting various social distancing rules such as limiting seats and capacity on public transport, but often without masking requirements. This puts a lot of financial burden to transport operators. On the contrary, Asian cities like Hong Kong and Seoul do not have active social distancing but with 100% masking in public transportation, and have been performing fairly well. Personal protection equipment is not only needed for passengers, but also for operators like drivers and conductors; cities need to make sure transportation staff are looked after and well protected.

HONG KONG - A UNIQUE CITY



Road and Transport Facilities – 16% of urban area
Railways – 2% of urban area



Total land area = 1,111 km² (including about 4 km² of Mangrove and Swamp below the High Water Mark). Country Parks, Special Areas and Major Public Reservoir Sites cover about 41.7% of the land area of Hong Kong.

Land Utilization in Hong Kong 2019

Sources: https://www.pland.gov.hk/pland_en/info_stat/statistic/landutil.htm
[https://www.hk2035plus.hk/_document/Planning%20and%20Urban%20Form%20Design%20and%20Development%20\(available%20High-Density%20City_Eng.pdf](https://www.hk2035plus.hk/_document/Planning%20and%20Urban%20Form%20Design%20and%20Development%20(available%20High-Density%20City_Eng.pdf)



Given these challenges, and Hong Kong's inherent challenge of limited land and space for roads and transport facilities, the city needs to manage the use of road space very carefully. This will include setting clear policies for curbing private car growth, creating citizen-centric mobility solution, developing multimodal integration, decarbonising transport by electrification and adopting new energy vehicles, expanding the railway network, and prioritising the movement of people instead of vehicles.

Decarbonising private transport

Mr Michael Chan

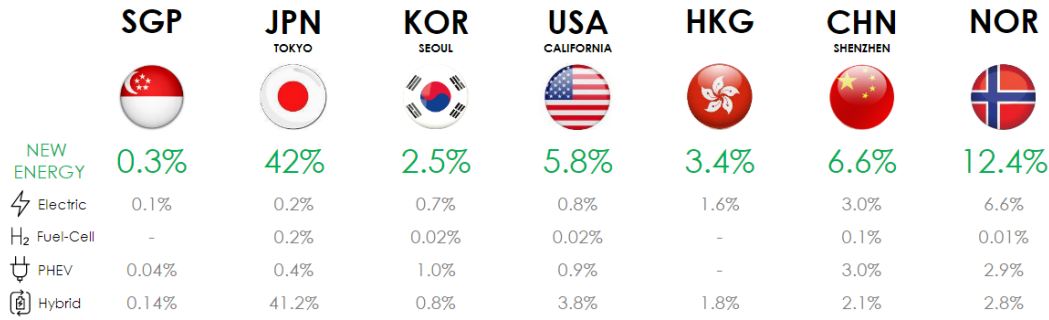
COO, Inchcape Hong Kong

2020 is a year full of challenges for Hong Kong – the pandemic, US-China Trade War, and being the hottest year in the past decade. In Hong Kong, the transport sector contributes 17.8% of carbon emissions and a quarter of those emissions are from private cars, motor vehicles and public transport.

The Hong Kong EV market is mainly dominated by Tesla. In 2020, 11.2% of all newly registered private cars are electric, and 1.6% of total registered private vehicles are electric in Hong Kong. While these are promising statistics, when the share of other new energy vehicles like hybrids are

also included in the picture, Hong Kong's share of low emission vehicles does not look as good compared to neighbouring cities.

But the Emission conversation is not just EV



Source: Best Estimate based on data from Business Times SG (2019), Statista Research Department (2019), Transportation Department, LEGCO, Statistics Norway (2020)

Therefore, the Government should consider having a roadmap not just for EVs, but also for other types of new energy vehicles. An added benefit for hybrid vehicles is that they are less reliant on a charging infrastructure, and can be an intermediate solution in the transition towards zero emission vehicles.

Most government didn't put all eggs in one basket

	Practicality	Infrastructure Readiness	Affordability		
	EMISSION ¹ (g-CO ₂ / KM)	DRIVE RANGE ² (CITY: KM)	REFILL DURATION ³ (Approximate)	INFRASTRUCTURE REQUIREMENT	LIFECYCLE COST OF OWNERSHIP ⁴ (HKD Equivalent, w/o tax or subsidies)
⚡ Electric	40	425	20mins ^{SUPER} 12hrs ^{WALL}	Electric Charging	~465k
H ₂ Fuel Cell	60	500	5mins	Hydrogen Station	~328k
🔌 PHEV	126	955	5mins	Petrol Station + Electric Charging	~269k
🚗 Hybrid	139	1055	5mins	Petrol Station	~268k
🚗 Gasoline	216	675	5mins	Petrol Station	~360k

Source: ¹Driving Electric, ²Business Insider, ³Car-and-Drive, ⁴Wikipedia ⁵Inchcape Estimate, ⁶Edmunds.com
Reference Vehicle: Electric: Tesla Model 3 Standard / Fuel Cell: Mirai / PHEV: 2021 Rav4 Prime / Hybrid: 2019 Prius / Gasoline: 2019 Toyota Camry Standard

Panel Discussion 2

Panellists

Mr Alok Jain, Managing Director, Trans-Consult Ltd. and Expert Trainer, International Association of Public Transport (UITP)

Mr Michael Chan, COO, Inchcape Hong Kong

Mr Dan Wong, General Manager-Global Innovation, MTR Corporation

Mr Gary Leung, Head of Operational Planning Department, The Kowloon Motor Bus Company (1933) Limited

Mr Alexander Mastrovito, Head of Sustainability, Scania

Dr Raymond Yau (Moderator), Chairman, BEC Sustainable Living Environment Advisory Group

Public and private transportation under COVID-19

- Under the pandemic, people have lost confidence in public transport due to the dramatic shift in lifestyle and hygienic concerns. This led to a surge in the use of private transportation, which induced a vicious cycle that made the roads become more congested and further lengthened the journey time to make public transport even less attractive.
- To provide a safer journey for passengers, new measures and technologies like improved ventilation, antiseptic layers, disinfectant robots and anti-microbial chemicals were used on buses and train cars to provide the highest level of hygiene for passengers, frontline and back-office staff. Some public transport operators also started producing their own masks for their staff.
- MTRC established a sophisticated set of internal procedures on the cleaning frequency of cars and stations, as well as on contact tracing. KMB learned from the first wave of infections and quickly adapted their operations to a responsive demand basis to better adjust for the impacts of the subsequent waves of infections.
- The pandemic adversely affected the sales revenue of Scania, but also allowed them to shift the company's attention and focus towards the sustainability agenda, and to pause and reflect on improving their operations.
- Inchcape noted that customers have been very concerned with hygienic issues and preferred to have the car purchasing process shifted to online platforms. The company adapted by arranging online showrooms, online car shows, and online quotations for maintenance; they also anticipated the digitalisation of their services to be an increasing trend.

Reducing transport-related emissions

- Hong Kong should not put all eggs in one basket, but to adopt a broad spectrum of new energy vehicles such as hybrid, plug-in hybrid and fuel cell vehicles on top of EVs. Apart from air pollutant emissions, GHG emissions should also be included when considering tailpipe emissions, which would need to be regulated for Hong Kong in order to achieve a low carbon mobility.
- Tailpipe emission reduction should not be the only consideration when it comes to improving air quality and decarbonisation; the emissions resulting from traffic congestion and power generation also need to be taken into account. Broader issues relating to the efficient use of road space such as bus lanes, off-peak delivery, illegal parking enforcement, and traffic congestion also need to be looked at for a holistic and sustainable transport management framework.
- Limiting the useful life of vehicles (apart from diesel commercial vehicles) can also reduce emissions. For example, encourage the replacement of taxis that have already been running for 10 to 15 years with the new generation of hybrid taxis that consume 60% less fuel.
- Multiple pathways will be needed for multiple industries and transportation modes to achieve the proposed 2050 carbon neutral target. There should also be milestones along the pathways, clear and transparent indicators to track progress, and data released for the public use.
- Without a clear direction from the Government, it is hard for the industry to prepare for a massive shift to clean technologies within a 20 to 30-year timeframe. A strong signal from the Government and clear milestones along the way will facilitate businesses to change their business models and bring lower emission technologies into Hong Kong.

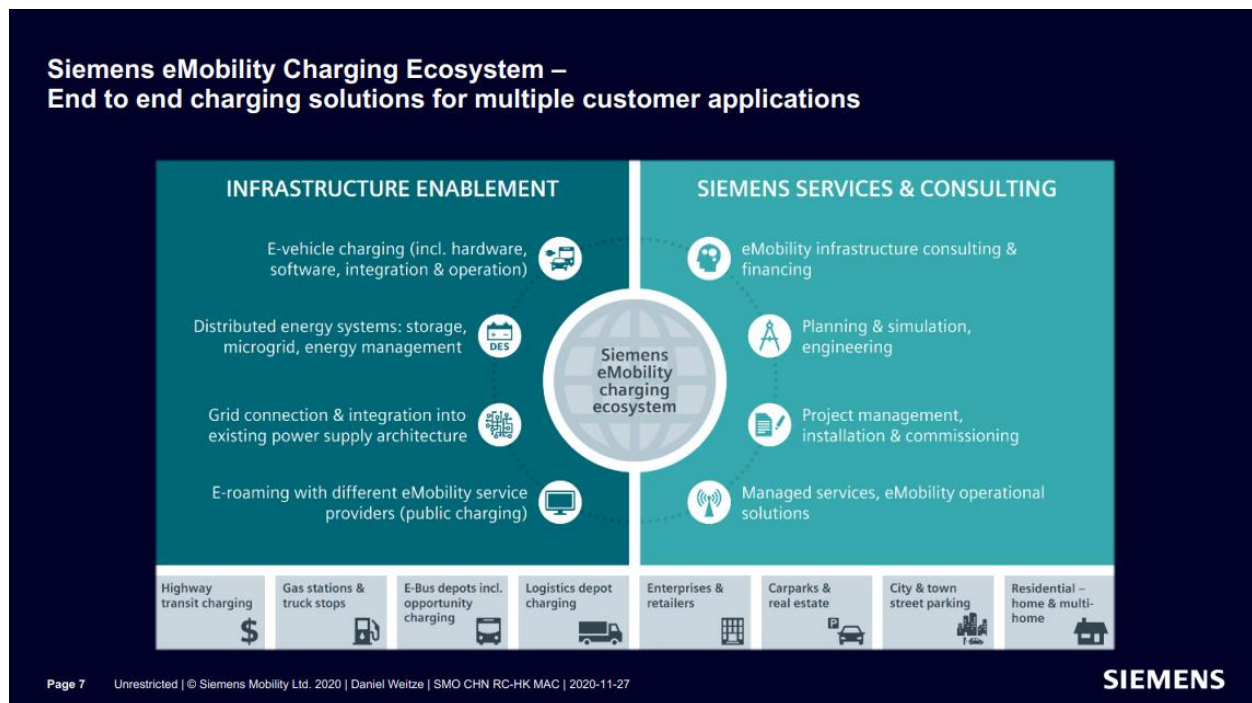
V. Plenary 3: Business Innovation and Opportunities in Post-COVID-19 Urban Mobility

Integrated solutions to zero-carbon and healthy mobility

Mr Daniel Weitze

Head of Digital Mobility, Siemens Mobility

Mobility patterns are changing and new trends like ride sharing and on-demand public transport are key for the decarbonisation of transportation. Renewable energy sources are important for societies to achieve net-zero emissions.



With smart mobility and infrastructure, service providers can provide commuters with more efficient trips that can be flexible and on-demand. For example, inter-modal solutions allow citizens to plan their travel ahead of time using behavioural information and preferences. E-mobility solutions are also developed for train control systems to optimise energy consumption by continuously analysing the demand for network and train schedules.

ICT and a smart, people-centric urban system

Mr Charles So

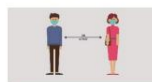
Chairman, Smart Mobility Committee, Smart City Consortium

Hong Kong faces various mobility challenges. Despite an over 90% of daily public transport ridership, growth in the public transport network is slow. With the ageing population, the reliance on mass transit systems is expected to remain. Congestion on all modes of transport is also growingly noticeable. Our transport system needs to further improve to be highly reliable and predictable.

Connected and Automated Vehicles (CAVs) and Smart Corridors are the major trends in smart mobility development. While CAVs may improve efficiency, sustainability and the mobility experience, they are far from being the solution to meet the aforementioned challenges, as they may exacerbate existing traffic congestions. It is expected that ultimately CAVs will integrate with traditional public transport services to create a more efficient mobility system.

Well designed, maintained and coordinated digital infrastructures such as accurate road sensors, reliable public transportation, as well as compatible CAVs are essential for Smart Corridor systems, which can enhance safety and efficiency in road transport by collecting and sharing real-time information to both service providers and end users.

LOOKING AHEAD



Social Distancing – most mass transits were designed in direct opposition to the tenets of social distancing. PT operators need to address the concerns/risks & regain trust.



Hosting Your Large E-Commerce Site

E-Commerce – dramatic growth in e-commerce will change the shopping trips/behaviour and new partnerships for transport of goods & boom in last-mile delivery activity are expected.



Commuter Behaviour - growth in adopting Work From Home, Flexible Working Hours, On-line Meetings and evolution of trip pattern (repurposing, respacing & retiming) will totally change the future travel demand & travel pattern.

Customer Experience - users are expecting more reliability service, real-time & personified information, seamless travel experience and higher acceptance of new form of mobility system/service will be expected.



Active Mobility –increased interests for users to choose active transport such as walking or cycling and help to promote healthy mobility lifestyle



Travel Safety Consciousness – health & hygiene concerns will have stronger influence on mode choice & people are getting more buy in to cashless and contactless payment.

➔ **Unique Opportunity to realign & reshape the transport network after COVID-19 based on advanced technology to come up with a more Resilient and People-centric Sustainable Mobility System**

The pandemic has steered changes in commuting behaviours and preferences, and more real-time services will be available to public transport riders with technological advancement. Active modes of transport like walking and cycling have also received increased attention, which will help improve health and safety and have a stronger influence on transport mode choices.

Post COVID-19 trends in urban living and mobility


Ms Yuan Shi

Global Solutions Lead, New Mobility, Arcadis


The global electric car stock grew exponentially over the last decade, but car sales worldwide has contracted in 2020 due to COVID-19. While EV sales decreased in US and China, the European EV market has continued to grow due to public policies and financial incentives. In the long term, diesel vehicles will be banned on road gradually, and the UK and California has already announced bans on the sales of gasoline- and diesel-powered vehicles by 2030.


The popularisation of EV relies on both availability of EVs as well as the charging infrastructures. With the transition from diesel to electric vehicles happening in the coming decades, upstream and downstream stakeholders of the EV industry face a wide range of opportunities.


ARCADIS NEW MOBILITY





OPPORTUNITIES


- 


- **Automotive OEMs**– all have EV production in the pipeline, many are building their own EV infrastructure networks – they seek brand positioning, and lifestyle branding will become more important as new players enter the traditional marketplace. NSC’s need to ensure the Dealer Network has multiple EV charging points in every dealer
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- **Fleet owners** – Public and private fleet owners are moving to EVs and CAVs many need to build their own private EV charging networks to support their fleet
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- **Mobility Service Providers (MSPs)** – including carsharing companies, logistics firms.– some are building their own private network of chargers. Many are seeking strategic partnerships to scale fast.
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- **Cities, Counties, Transport Agencies** – these organizations need a sustainable Mobility strategy and associated EV infrastructure plans that aligns with policy, regulation and future trends
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- **Retailers and Real Estate** – already retailers are introducing chargers in their parking lots but a future move to EV and CAV fleets may require serious infrastructure for customers and delivery vehicles.
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- **Utility companies** – many of these companies are building their own EV networks to diversify their services and provide, where possible, a fully renewable offering from Solar and Wind to the Car. any will also have their own EV fleets
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- **Oil & gas companies** – as these companies seek to diversify, many are already introducing EV infrastructure into their retail stations and on their real estate portfolio

Driving Green Transportation in Hong Kong

Ir Dr Anthony Lo

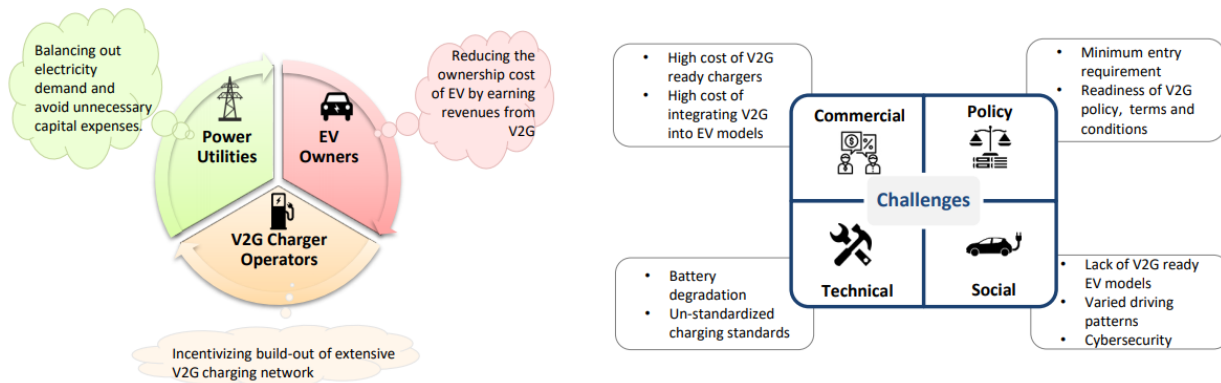
Director – Corporate Customer Experience, CLP Power Hong Kong Limited

Hong Kong can decarbonise through transitioning to a greener energy source and the electrifying public and private transport. To promote the use of EVs in Hong Kong, the CLP EV Portal was created to provide information on all EV charging stations and parking areas in Hong Kong. The platform enables EV drivers to check the real-time availability of the charging facilities, the charging status of their cars and even reserve parking spaces in the future. CLP also provides one-stop-shop technical support and customer services for interested parties to apply for the EV-charging at Home Subsidy Scheme (EHSS) for retrofitting residential carparks into EV-charging-ready.

EV-related technologies are still emerging and they may alter the landscape of the whole ecosystem. New EV charging technologies like robotic charging and wireless charging are currently under development and vehicle-to-grid technology that enables energy to be fed back to the power grid from the EV batteries is also closely examined in the industry.

Vehicle to Grid

Vehicle to Grid (V2G) is a technology that enables energy to be pushed back to the power grid from the battery of an electric car. It can bring benefits for various stakeholders.



V2G a new model. Further investigation is required before V2G reach commercialization to bring viable benefits to ecosystem players.

Connected and autonomous vehicles

Mr Clement Ho

Associate Director, East Asia Digital Transport Lead, Arup

CAVs can reduce human error and are seen as a more effective use of resources and an enabler for a safer road environment. However, CAVs at the moment are not safety-ready, the related infrastructure is lacking globally, data privacy and trust issues remain to be solved. Gaining public support is crucial for the wider adoption of CAVs.

Key Aspect & Opportunities for CAV – System Level



CAV is only one part of a sustainable transport system. A reliable and resilient mobility system should be diverse and affordable for all members of the society, especially minorities like mobility impaired and elderly travellers.

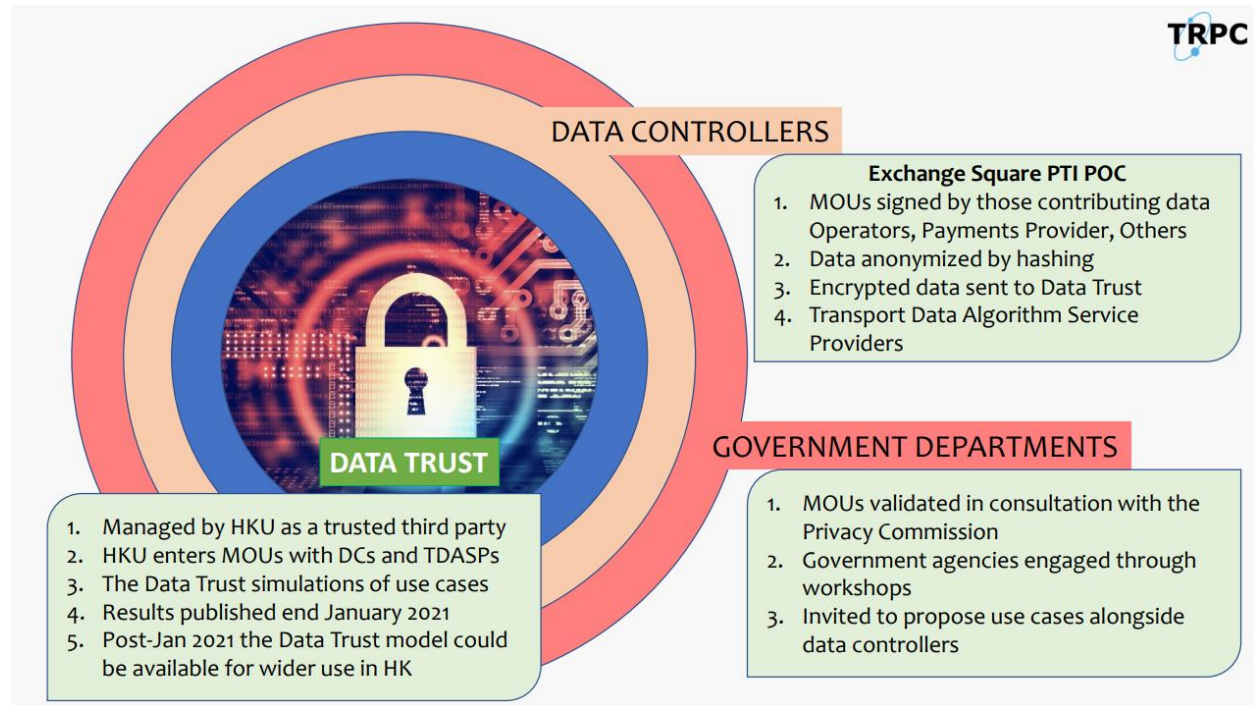
Inter-modality, data sharing and sustainable mobility

Dr John Ure

Mobility Director of Technology Research Project (TRP) and Fellow of the Centre of Urban Studies and Urban Planning, HKU

Dr Ure shared his experience in managing the Inter-Modal Transport Data-Sharing Project, which aims to study state-of-the-art transport data sharing initiatives globally that provide open transport data while maintaining public trust, with the objective of applying some of the lessons to Hong

Kong where data sharing among operators has begun. Transport data is collected from mobility service providers and transport data algorithm service providers will share algorithms for in-depth data analyses. HKU manages the data as a trusted third party (data trust) and provides independent stewardship of the data collected. Government agencies also participated throughout the project and proposes potential data usage projects.



Panel Discussion 3

Panellists (from left to right):

Mr Daniel Weitze, Head of Digital Mobility, Siemens Mobility

Mr Charles So, Chairman, Smart Mobility Committee, Smart City Consortium

Ms Yuan Shi, Global Solutions Lead, New Mobility, Arcadis

Ir Dr Anthony Lo, Director – Corporate Customer Experience, CLP Power Hong Kong Limited

Mr Clement Ho, Associate Director, East Asia Digital Transport Lead, Arup

Dr John Ure, Director of Technology Research Project (TRP) and Fellow of the Centre of Urban Studies and Urban Planning, HKU

Mr Ron Chung (Moderator), Director, Engineering and Technical Services, Smart Charge (HK) Limited

Smart integrated transport

- The entire mobility ecosystem should be re-examined to transition into smart integrated transport. This includes considerations in the upstream, such as the use of renewable energy sources, to downstream end-users, including their demands and how innovative solutions could be tailored to cater for their needs and concerns. Area-specific small-scale pilots can be established to test this approach and be scaled up in other areas.

Promotion of CAVs

- Reliable territory-wide infrastructure is fundamental to the promotion of CAV and it should be reviewed and designed to meet future needs. The ecosystem can be changed drastically by new technologies and we need to keep abreast of the technological development in this area.
- CAV trial projects and pilot areas can be set up to test out the technology. For example, in Mainland China, a pilot area was set up to examine the safety of the system as well as the interaction between pedestrians and CAVs. Additional sensors and signalling facilities should be installed on roadside to prevent accidents.
- Currently there is no established regulatory framework regarding CAV, so Arup has developed a policy and legal framework that allocates responsibilities for different levels of driver autonomy. Tesla has also started its own insurance company trying to fill the void in this area.

- A shrink in public transport ridership has been observed globally. Although service providers regain part of the ridership as time went by, many still face capital investment declines and revenue downturn. Against this background, Hong Kong should rethink what elements need to be included in public transportation services. Shared micro mobility and bikes have also become parts of public transport during the pandemic, and these emerging trends could be integrated into the conventional mobility system.

Privacy and Trust

- Data sharing is the core element of smart city development, and data from different sources have to be collected and collated for comprehensive policy planning. However, transport operators in Hong Kong are not used to sharing data with external parties, as one of their major concerns is to protect commercial interest. Communicating with mobility service providers collectively are proven to be more effective than engaging providers separately. When trust is established between end-users, service providers and the authorities on data sharing, the process can be repeated and scaled gradually to facilitate open data.

VI. Plenary 4: Promoting Active and Inclusive Transport

COVID-19 and walkability

Ms Bronwen Thornton

CEO, Walk 21

COVID-19 did not only change people's mobility patterns but also how they live and manage their lives. There has been a stronger awareness on the importance of walkability in communities, and the changing public opinion offers people the opportunity to reflect on the way cities were built. The pandemic has rekindled support for better walking and cycling infrastructures in the future.

Many countries and cities took the pandemic as an opportunity to accelerate changes and invest in active travel enablers. For example, pedestrianisation and cycling were intensified in Milan and London. Active mobility is promoted through widening of footpaths, crossing improvements, and granting permission to vending on streets. However, time will be needed for these plans to be embedded in communities.

Milan: Design



Paint



Enjoy!

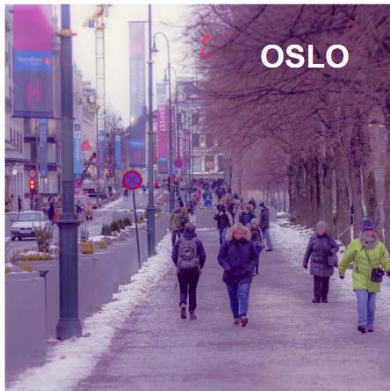


The pandemic has also led to the reallocation of public space. Urban gardens are built on parking spaces and restaurants are moved outdoors. More people are also working from home due to

COVID-19. This shifts people's focus from commuting in the city to the local neighbourhood network, resulting in the localisation of movement and services.

WALKABLE CITY EXAMPLES

GLOBAL CITIES ARE INVESTING IN WALKABILITY



After committing to Vision Zero nationally in 2002, investments in walkability and traffic management have delivered NO pedestrian fatalities in 2019.



Seoul Metropolitan Government is converting road space as part of its ambitious walking plan creating a network of greenways and riverside parks.



The Mayor of Bogota wants her legacy to be a transformation of the walking experience. New walkable streets and better access to public transport are being curated.

Hong Kong people walk frequently but the increasing motorisation and allocation of road space to vehicles discourage people to walk locally. The hostility of drivers towards pedestrian movement and the walking environment also hinder walkability of the city. A strategic plan on walkability is needed for to support the promotion of active mobility in Hong Kong.

Creating healthy and sustainable cities with active and inclusive transport

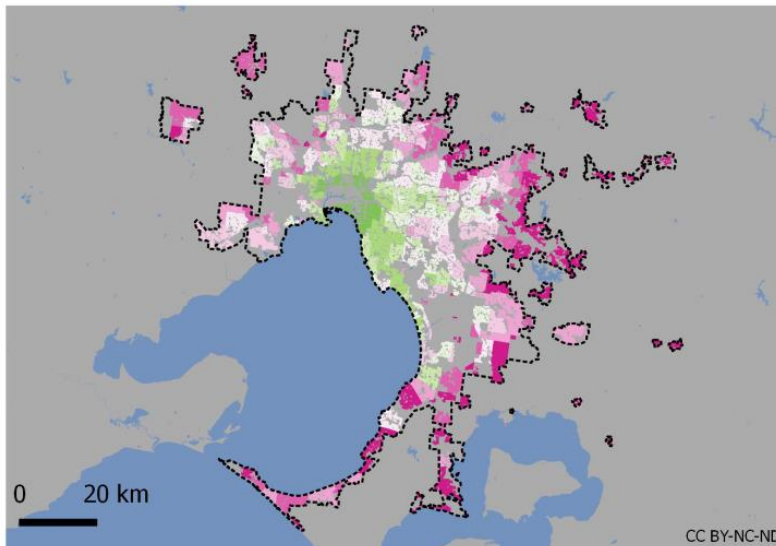
Prof Billie Giles-Corti

Distinguished Professor and Director, Urban Futures Enabling Capability Platform, RMIT University

A liveable city is safe, environmentally sustainable, socially cohesive, and inclusive for the community. An active and inclusive transport system contributes to liveability.

In Melbourne, only the inner city is able achieve a sustainable environment. Accommodations in the fringe of the city are affordable but has a low level of walkability and accessibility that disconnect people from daily living. Such communities lack accessible public transport options and local employment opportunities that are of walking and cycling distances. The spatial distribution reveals inequities within the city.

Composite walkability indicator* for suburbs within Melbourne



Legend

Study regions

Decile



Healthy Liveable Communities



* decile score for the suburbs of Melbourne, combining street connectivity, dwelling density and daily living scores

When creating a framework that takes care of people’s needs and improves the liveability of a city, evidence-informed policies are needed for the policymakers and academics to formulate city planning features desired by its residents.

Ambitious targets can also be helpful in creating a vision for walkability. Short-, medium- and long-term goals should be set, and quantifiable spatial indicators should be defined, tracked and reviewed regularly to benchmark and monitor a city’s liveability. Data portals on liveability should be established to facilitate the identification of relevant stakeholders, and consider factors affecting liveability and the inadequacies under current policies.

If we want to go from aspiration to delivery on-the-ground?

1

Evidence-informed policies
Evidence-informed integrated transport, land use and infrastructure planning is needed to deliver affordable housing, public transport, accessible employment and amenities, and to create walkable neighbourhoods as the foundation of a liveable city.

2

Short, medium and long-term targets
Include measurable spatial standards in state government urban, transport and infrastructure policies, regulations and/or guidelines, including short-, medium- and long-term targets as appropriate.

3

Spatial indicators
Develop spatial indicators of Australian cities to benchmark and monitor the implementation of state-based policies designed to create liveable communities.

7

Metropolitan governance
Move towards metropolitan governance of cities, starting by ensuring that state and local government policies are consistent and evidence informed, and specifically designed to create healthy liveable communities.

Panel Discussion 4

Panellists:

Ms Bronwen Thornton, CEO, Walk21

Prof Billie Giles-Corti, Distinguished Professor and Director, Urban Futures Enabling Capability Platform, RMIT University

Mr Patrick Fung, CEO, Clean Air Network

Mr Roger Torino, Associate Planner, OTC Limited

Mr Nicholas Brooke, Asia Pacific Chairman, Urban Land Institute (ULI)

Mr Simon Ng, (Moderator), Director – Policy & Research, Business Environment Council

Strategising Walkability

- Public space and facilities should be planned around their users. Although Hong Kong has a relatively robust pedestrian system, it faces another set of challenge due to its density and intensity of footpath usage. Priorities and values of society are reflected by how its residents organise and allocate spaces. The pandemic has accelerated these spatial re-organisations globally but much less so in Hong Kong, as COVID-19 is relatively well-managed in the city.
- Hong Kong citizens typically walk for convenience and not for the quality of experience, so there is a need to improve the latter with financial incentives and policy support. Shanghai, for instance, focused on humanising streets instead of focusing on vehicles, and strategised on making streets safe, green, vigorous, and smart.
- Infrastructure and mentality are key to the walkability of cities. If the environment does not have the qualities it needs, it will not be able to encourage more walking. Hong Kong has the proximity to urban services and networks of public transport, but the quality of pedestrian experience is compromised and it needs improvement. The city can start by mapping and identifying where interventions are best placed to increase the quality of walking.
- Traffic planning and street design should be reviewed and adjusted to favour public transit users and pedestrians. Walkways should be widened to ensure cycling paths and bicycle parking spaces should be created to enhance walkability and aesthetics. Walking and cycling plans that focus on people's needs should be created; private sector actors should also join the conversation to create mutual benefits. Improving walkability has the potential to addresses multiple urban problems at the same time.

Measuring success for walkability

- Improving air quality and reducing environmental impacts is a must to safeguard public health. Measuring the happiness among citizens and making the connection between walkability and happiness will also be important. Finally, improving commuting times would allow people to maximise and reallocate their time for other activities.
- Policymakers can start with measuring how much time people spend in public spaces, identifying walking and commuting patterns, and creating non-commercialised public spaces for people to spend time with.
- A walkability study has been conducted by the Hong Kong Government, and two low-traffic zones have been established in Hong Kong as pilots to examine pedestrians' street level experience. A shared vision between different government bureaus and society is needed to further promote this idea.
- The property development community has acknowledged that tenants and customers are now also looking for convenience and walkability, and enhanced walkability in a community can increase property value and rent. However, the local community may not appreciate the greater benefits with the changes in place. Therefore, walkability projects should kickstart with quick wins and local stakeholders must be involved, ideally with pilots set up to better understand their needs and thoughts, as their support is vital.

VI. Closing Remarks

Mr Richard Lancaster

Chairman, Business Environment Council

Mr Lancaster expressed that moving the conference online enabled BEC to engage a diverse range of speakers around the world. The rich and complex discussion provoked a complete rethinking in the way we tackle urban transport and being an integral part of city planning, and integrate the use of spaces to improve quality of life.

Speakers and panelists demonstrated how rapid advances in technology and data availability can be applied to facilitate the movement of people and tailoring to fit their demands. These interesting ideas will also create tremendous opportunities for the business community – who has a role of leading change – to make Hong Kong not just low carbon and sustainable, but also a healthy, active, and happy city.

VII. Conference Takeaways and Related Work by BEC

- 1. The urban mobility system should be re-prioritised from car-centric to people-centric designs. This means reducing the number of private cars while making the alternatives more attractive, for example disincentivising car ownership by reducing the number of carparking spaces and reducing the amount of road space.**
 - BEC's 2016 [Roadside Emissions Taskforce Report](#) highlighted that transportation policies should enable and speed up the movement of people and goods, support public transport as the preferred mode of travel for journeys, and address congestion through smart systems, and minimising unnecessary vehicular movements.

- 2. Open data and data privacy issues remain one of the key challenges towards a smart, integrated and sustainable mobility system. Data sharing can improve the efficiency of the transportation system and allow the development of innovative transport services and solutions.**
 - BEC has been a supporting organisation, and part of the Environmental Interest Group, of the [Internodal Transport Data Sharing Programme](#) in Hong Kong led by TRPC. The programme was aimed at addressing the lack of data-sharing, which would be crucial for the development of integrated smart city transport policies, between transport operators in Hong Kong.

- 3. Both air pollutant and greenhouse gas emissions from the transportation sector needs to be addressed. This should be achieved not only through reducing tailpipe emissions from transitioning to alternative fuel vehicles like electric and hybrid vehicles, but also from reducing traffic congestion and switching to cleaner power sources.**
 - In BEC's [Submission on the Chief Executive's 2019 Policy Address](#), an “avoid-shift-approach” was recommended to better manage transport demand. This approach called for avoiding unnecessary or short-distance journeys on mechanised modes of transport by promoting walking and cycling; shifting essential or long-distance journeys to public mass transport; and improve the remaining road-based vehicles by retrofitting emitting vehicles with emission reduction devices.

- To facilitate the dialogue between the business sector and government, BEC launched the [Road Transport Dialogue Platform](#) in 2017 with the support from the Under Secretary for the Environment and the Under Secretary for Transport and Housing, to work collaboratively towards reducing the industry's carbon emissions and improving Hong Kong's air quality.
 - BEC's [Sustainable Living Environment Advisory Group](#) has recently set up an Electric Vehicles Task Force (EV TF) to deliver policy recommendations on the Government's upcoming Roadmap on the Popularisation of Electric Vehicles. The EV TF met with the Environmental Protection Department in November 2020 and [submitted its recommendations](#) to the Government in December 2020.
- 4. Active mobility needs to be promoted and prioritised to make Hong Kong a happier, healthier and more sustainable city. In Hong Kong, active modes of transport like walking and cycling are typically out of convenience but not for the quality of experience itself. Improving the quality of the journey by widening and beautifying walkways, and establishing a well-connected cycling network with bike parking facilities will encourage more walking and cycling.**
- BEC's [Submission on the Government's Long Term Decarbonisation Strategy](#) suggested improving the walking environment and pedestrian experience in order to encourage people to walk more and become less reliant on vehicles to consume less energy, reduce carbon and air pollutant emissions, and make people healthier. This has also been reflected in the Council for Sustainable Development's [Public Engagement Report](#), which recommended the Government to invest in non-motorised transport infrastructure such as walking and cycling paths.

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About BEC

Business Environment Council Limited (“BEC”) is an independent, charitable membership organisation, established by the business sector in Hong Kong. Since its establishment in 1992, BEC has been at the forefront of promoting environmental excellence by advocating the uptake of clean technologies and practices which reduce waste, conserve resources, prevent pollution and improve corporate environmental and social responsibility. BEC offers sustainable solutions and professional services covering advisory, research, assessment, training and award programs for government, business and the community, thus enabling environmental protection and contributing to the transition to a low carbon economy.

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